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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/520,032	03/06/2000	Timothy L. Hoopman	49933USA6H	9385

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EXAMINER

DEL SOLE, JOSEPH S

ART UNIT PAPER NUMBER

1722

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/520,032

Applicant(s)

HOOPMAN ET AL.

Examiner

Joseph S. Del Sole

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A9

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 19-21, 25-28, 33-54, 94-96 and 98-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on 10/28/03, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 17, 20, 21, 25-28, 33-54, 94-96, 98-111 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Each of the above listed claims includes the limitation "wherein each of the

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cavities has a single opening", which is a new matter limitation not described in the original specification. In so much as the Random House College Dictionary defines "single" as "one only; only one in number", the original specification does not teach any of the cavities as have one and only one opening in number. Furthermore, the original specification does not preclude the cavity from having more than one opening. Still further, the drawings do not show one and only opening, nor do the drawings preclude multiple openings. Therefore it would not be conveyed to one of ordinary skill in the art that the inventors had possession of a tool wherein each of the cavities has a single opening.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 25-28 and 94-96 are rejected under 35 U.S.C. 102(b) as being anticipated by Rochlis (3,312,583).

Rochlis (figs. 21 and 22) teaches a production tool suitable for use in manufacturing an abrasive article (col. 1, lines 50-56) which includes a plurality of cavities having geometric shapes, angles and dimensions. At least two of the cavities have different angles. Note that 9 cavities are shown with a first plurality of rectangular cavities, a second plurality of circular cavities, and a third plurality of triangular cavities defining 20 pairs of adjacent cavities, wherein 14 of the pairs have at least one dimension, such as base edge lengths, which is different between the two cavities of the pair. Thus, 70% of the pairs have at least one dimension which is different between the two cavities of the pair. Each of the cavities has a single opening.

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5. Claims 20, 21, 33, 34, 36-45, 47-54, 98, 99, 101-106 and 108-111 are rejected under 35 U.S.C. 102(b) as being anticipated by Rochlis (3,312,583).

Rochlis teaches a production tool suitable for use in manufacturing an abrasive article (col. lines 50-56) which includes a plurality of cavities having different geometric shapes, angles and dimensions. The production tool can be a coating roll (fig. 19) or an etched (engraved) metal roll (col. lines 52-63; col. lines 15-17 and 62-67). The production tool can have 9 cavities as shown in figs. 21 and 22 with a first plurality of rectangular cavities, a second plurality of circular cavities, and a third plurality of triangular cavities defining 20 pairs of adjacent cavities, wherein 14 of the pairs have at least one dimension, such as base edge lengths, which is different between the two cavities of the pair. Thus 70% of the pairs have at least one dimension which is different between the two cavities of the pair. At least one of the angles or base edge lengths of the first plurality is different from all the angles or base edge lengths of the second plurality and of the third plurality. At least one of the angles or base edge lengths of the second plurality is different from all the angles or base edge lengths of the first plurality and of the third plurality. Each of the cavities has a single opening.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 17, 20, 21, 33-54 and 98-111 rejected under 35 U.S.C. 103(a) as being unpatentable over Rochlis (3,312,583).

As to claims 20, 21, 33, 34, 36-45, 47-54, 98, 99, 101-106 and 108-111, the 102 rejection above is based upon the interpretation of the alternatives for the production tool disclosed by Rochlis as being anticipatory. If applicants believe that the disclosed alternatives are NOT anticipatory, then it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the production tool of

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Rochlis with the alternatives disclosed by Rochlis because Rochlis explicitly discloses that the production tool can be modified with such disclosed alternatives.

As to claim 17, Rochlis does not disclose the cavities having a material-included angle with a value from 20 to 90 degrees. Note that Rochlis discloses that the cavities can have pyramidal shapes (col. 13, lines 51-58). As to claims 35, 46, 100 and 107, Rochlis discloses a production tool having 3 different types of cavities defining three pluralities or groups of cavities (figs. 21 and 22), but does NOT explicitly disclose a fourth plurality or group of cavities having a fourth different type of cavity. However, Rochlis discloses that the production tool can have different sizes (col. 2, lines 66-70; col. 6, lines 17-22; col. line 61, to col. 10, line 52) and discloses that the production tool can have a plurality of different types of cavities (col. 13, lines 29-35). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the cavities of Rochlis to have a material-included angle with a value from 20 to 90 degrees because such an angle would have been found due to routine engineering in finding operable parameters for the apparatus and/or in optimizing the apparatus, In re Aller, 105 USPQ 233 and/or because Rochlis discloses that the cavities can be of different sizes, or to modify the production tool to have four pluralities or group of cavities having four different types of cavity because Rochlis discloses that the production tool can have a plurality of different types of cavities and/or because Rochlis (figs. and 22) discloses a production tool example having not just two but three pluralities or groups of cavities having three different types of cavities.

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10. Claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochlis (3,313,583).

If applicants intended a single opening to mean that the mold is a continuous integral mold with the single opening, then this rejection applies. Rochlis discloses the apparatus substantially as claimed as mentioned above. The mold of figs. 21 and 22 is a laminate mold composed of layers. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the mold to be integral (i.e., have no layers) because generally there is no invention in making integral that which was before in several parts, In re Lockhart, 90 USPQ 214. See also In re Larson, 144 USPQ.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending

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Application No. 09/955,604. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of claims 23, 24, 30-32, and 133-148 of copending Application No. 09/955,604 by eliminating elements thereof because omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before, In re Karlson, 136 USPQ 184.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

13. Claim 19 is allowed.

Response to Arguments

14. Applicant's arguments filed with the appeal brief of 10/28/03 have been fully considered but they are not persuasive.

Applicants argue that claims 20, 21, 25-28, 33, 34, 36-45, 47-54, 94-96, 98, 99, 101-106 and 108-111 are not anticipated under 35 U.S.C. 102(b) by Rochlis (3,313,583).

Applicants argue that Rochlis does not disclose every element of the claimed invention, particularly each of the cavities having a single opening, and that Rochlis (col. 3, lines 40-49) requires the mold to have a laminate construction with multiple openings (i.e., openings between the laminate layers in addition to the openings through which mold material enters the cavity), the openings between the laminate layers allowing air

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or gas from the mold material to escape. The examiner agrees that there are multiple openings: openings between the laminate layers which define vent openings in addition to openings receiving the molding material which define mold cavity openings. Clearly, the vent openings do not perform any shaping function and thus are NOT part of the cavity. Each cavity has a single opening which defines the cavity.

Applicants argue that each cavity has a single opening and the Random House College Dictionary defines "single" as "one only; only one in number" and that the mold of Rochlis requires a construction with multiple openings. Further that these openings allow "air or gas evolved in the molding or hardening procedure escape" and that there is no disclosure in Rochlis that any cavity has only a single opening. The Examiner disagrees. As stated newly in this action, the addition of "single" to the claims is new matter. Furthermore, since the vent openings are not part of the cavity, the cavity has a single opening which defines the cavity.

Applicants further traverse the assertion (by the examiner) that the vent openings are not part of the mold cavities. It appears that Applicant's arguments are not corresponding to what is actually claimed. Each of the cavities having a single opening does NOT negate the mold from having other non-cavity openings. Again, as mentioned above, the vent openings do not perform any shaping function and thus are NOT part of the molding cavity. Furthermore, if the vent openings were a part of the mold cavity, then wouldn't the mold material flow into the vent openings to also escape from the mold. Clearly, Applicants interpretation of Rochlis that the mold cavities include the vent openings is incorrect. The vent openings are NOT a part of the cavity.

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Applicants argue that there is no disclosure in Rochlis of mold constructions without openings between the laminate layers. The examiner disagrees. Rochlis (col. lines 40-46) discloses that "most embodiments" permit air or other evolved gas to escape, and Rochlis (col. 13, lines 70-75) discloses evolved air or gas "may" escape between mating surfaces of the laminated layers. Thus, in the embodiments (in opposition to "most embodiments") where there are no openings to permit air or other evolved gas to escape, each cavity has a single opening.

Applicants disagree with the Examiner's assertion that Rochlis does not disclose that allowing air or gas to escape is critical or required for the operation of the apparatus and further quotes the Rochlis patent. The examiner maintains his assertion that Rochlis does NOT disclose this criticality because Rochlis does disclose that in some embodiments there are no openings in the laminated mold or laminated production tool, as mentioned previously.

The Applicant argues that it is appropriate for the Examiner to allege that a positive teaching of embodiments with a single opening results from the use of the phrase "most embodiments" in the context of permitting air or gas to escaping and the term "may" in the context of air or gas escaping. The Examiner disagrees. It is clear that if most embodiments permit air or gas to escape then the remaining embodiments that do not permit air or gas to escape and therefore the remaining embodiments have cavities without vent openings.

Applicants argue that Rochlis does not contain an enabling disclosure. Applicants argue that Rochlis does not teach how one of skill in the art would make a production

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tool with even one mold cavity with a single opening or would make a mold or production tool with only a single opening in each cavity. It appears that Applicants are arguing that Rochlis does not have an enabling disclosure for making a mold or production tool without the vent openings. The examiner agrees that Rochlis is enabling for a laminated mold construction that includes openings between the mating surfaces of the laminations. However, as mentioned above, in other embodiments of Rochlis, the laminated mold has no openings for gas or air to escape. Thus, Rochlis is enabling for making a laminated mold or production tool without the vent openings which would define each mold cavity with a single opening. Note that there is a single cavity opening in each cavity of Rochlis.

Applicants argue that claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 are not obvious under 35 U.S.C. 103(a) over Rochlis (3,312,583).

Applicants argue that Rochlis does not teach or suggest how one of ordinary skill in the art would make a production tool with each cavity having a single opening or with a single opening in each cavity. The examiner disagrees as this is discussed at length above. Applicants argue that the Office Action fails to establish a prima facie case of obviousness. However, modifying the production tool of Rochlis with the alternatives disclosed by Rochlis has clear motivation since Rochlis explicitly discloses that the production tool can be modified with such disclosed alternatives.

Applicants argue that one of skill in the art would not be motivated to make a mold or production tool for manufacturing an abrasive article with a single opening as a result of the teachings of Rochlis based on the "disclosed alternatives". The Examiner

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disagrees. The "disclosed alternatives" discussed by the Examiner are not the embodiments where there are no openings to permit air or other evolved gas to escape. While it is taught that there are embodiments where there are no openings (as discussed above), the disclosed alternatives set forth at pages 12-13 of the Examiner's Answer of 1/14/03 refer to the disclosed alternatives at column 13 of Rochlis which describe the different shapes which may be utilized for cavity openings.

Applicants argue that Rochlis teaches away from the claimed invention in view of the fact that Rochlis emphasizes the importance of the openings between the mating surfaces of the laminations to allow evolved air or gas to escape. Applicants argue that one of skill would expect that a mold with only a single opening in each cavity would not be functional since the openings between the mating surfaces of the laminations allow evolved air or gas to escape. The examiner disagrees. Rochlis does NOT disclose that allowing evolved air or gas to escape is CRITICAL or REQUIRED for the apparatus to operate. Furthermore, Rochlis explicitly discloses that in some embodiments there are no openings in the laminated mold or laminated production tool allowing evolved air or gas to escape, as mentioned above.

Applicants argue that it is impermissible to use hindsight as an obviousness test. It must be recognized that any judgment of obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170

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USPQ 209 (CCPA 1971). Applicant's argue that the use of Rochlis alone in an obviousness rejection can only occur by the impermissible use of hindsight reasoning. The examiner disagrees that a single reference 103 rejection can only occur by hindsight reasoning, and Applicants have not given any factual evidence to support such a conclusory statement. Note that the obviousness rejection by the examiner took into account only the knowledge disclosed by Rochlis and knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from Applicant's disclosure.

Applicants do NOT argue the standing provisional rejection of claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending Application No. 09/955,604. In the Summary of the Appeal Brief, Applicants state that, if patentability of the instant claims is confirmed, Applicants will file a Terminal Disclaimer if such rejection is maintained. Note that the Terminal Disclaimer filed on August 23, 2001, is directed to U.S. Patent copending Application No. 09/955,604.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (571) 272-1151. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Joseph S. del Sol

J.S.D.

January 14, 2004

W. L. Walker

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